Highlights

Large number of arm movement repetitions, prone to induce brain reorganization;

Bimanual interactions facilitate more cross-lobe connections in the brain and may improve split attention;

Simultaneous training in the physical and cognitive domains;

Motivating and engaging games adapt to each patient's motor and cognitive levels;

Automatic session report generation minimizes therapist time spent documenting sessions;

Compact system can be used in a multitude of settings from inpatient and outpatient clinics to adult day programs;

Cost advantage compared to current products on the market;

Training of your staff included in our support and maintenance program.

Bright Cloud International's mission is to modernize physical medicine by developing and marketing rehabilitation systems that use virtual reality custom games.

Our pioneering work has been shown to benefit a variety of populations that exhibit upper extremity motor dysfunction and may have cognitive deficits. Preliminary studies have shown improvements in Mild Cognitive Impairment, Primary Progressive Aphasia and other forms of dementia

BCI has recently received the 2015 NJ Small Business Growth Success Award.

Bright Cloud International

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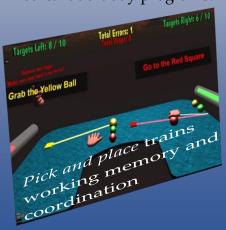www.brightbrainer.com

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Bright Cloud International

The *BrightBrainer Rehabilitation System* is a mechatronic rehabilitation system used to support the integrative rehabilitation programs of users exhibiting motor dysfunctions of the upper extremity and to enable cognitive exercising and related reporting. It is used with minimal assistance of a trained supervisor.

BrightBrainer™

BrightBrainer™ REHABILITATION SYSTEM

BrightBrainer consists of an all-in-one desktop PC, bimanual game controller, custom integrative training games and a local database. Optional equipment are small wrist weights worn to increase physical exertion and wireless headphones that provide clear sound feedback in noisy environments. The game controllers measure in real time whole arm & finger movements of both hands. The system is compact, needing only a non-metallic table and a chair with no arm supports. It can be used in a variety of settings from inpatient and outpatient rehabilitation clinics, to medical adult day programs.

Pick and place trains working memory and coordination

Adaptive BrightBrainer™ motor and cognitive training

Each of our serious games automatically adapt to the patient's arm reach and finger range. Unlike off-the-shelf video games, BrightBrainer adaptable games give patients a chance to win regardless of upper extremity functional level. The adaptation is arm-specific such that in virtual reality both arms contribute equally to the task. In addition, games adapt to the patient's past performance, so to advance through multiple levels of difficulty. This feature allows BrightBrainer™ to function in a 'self-guided mode,' in which the patient choses what games to play in a session.

Breakout 3D trains focusing and executive function

Submarine rescue trains executive function, language comprehension & dual tasking

Engaging and rewarding program

On winning the games, patients receive visual and auditory rewards in addition to summative feedback on performance. They are engaged and feel in control of the rehabilitation session. Typically, patients wish to continue, even when the scheduled time has elapsed. However BrightBrainer Rehabilitation System exits automatically, so as to prevent overexertion and to minimize fatigue. A session report is then automatically generated, minimizing therapist time.

G Burdea, K Polistico, A Krishnamoorthy, G House, et al. A feasibility study of the BrightBrainer™ cognitive therapy system for elderly nursing home residents with dementia. *Disability and Rehabilitation – Assistive Technology.* 10(5):421-432, 2015.

G Burdea, K Polistico, G House, R Liu, et al. Novel Integrative Virtual Rehabilitation Reduces Symptomatology in Primary Progressive Aphasia – A Case Study. *International Journal of Neuroscience,* 2014.

G Burdea, C Defais, K Wong, J Bartos and J Hundal. Feasibility study of a new game-based bimanual integrative therapy. Proceedings 10th Int. Conference on Virtual Rehabilitation, Philadelphia, PA, August 2013, 101-108.